

Appl. No. 09577426
Amdt. dated February 4, 2004
Reply to Office Action of September 9, 2003

REMARKS

Applicant respectfully requests the Examiner to enter this Amendment and pass this application on to an allowance.

The Examiner's request for a new Oath/Declaration is noted. A replacement oath was submitted herein on December 19, 2003. Please be sure all correspondence is directed to the undersigned at his Washington, D.C. address.

Applicant acknowledges the Examiner's reminder about a certified priority application. Applicant submitted a certified copy of the priority document on December 19, 2003 to perfect entitlement to priority benefit pursuant to 35 U.S.C. §119 and 37 C.F.R. §1.55.

Applicant's new counsel acknowledges with appreciation the Examiner's comments in the September 9, 2003 paper at page 2, third paragraph. If various prior submissions, including the prior submissions of December 19, 2003, and this paper, inadvertently miss a matter of concern to the Examiner, please do not hesitate to telephone the undersigned.

The amendments to the specification introduce paragraphs based on the original claims. Since the original claims were part of the original disclosure, amending the present specification to recite their disclosure avoids new matter.

Amended claims 28 and 31 find basis in the original application and attention is respectfully invited to page 2 at lines 14-16 and original claim 5.

The new claims find basis in the specification throughout, including the Examples and original plus first preliminarily amended claims. Original claim 7 referred to "Cl₂O [sic], ADN, AP, RDX, HMX and PETN" and the original specification referred to nitramine energetic materials, such as CL-20, HMX, and RDX, and other materials at page 1. The nomenclature is well-known to those skilled in the art.

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Applicant has carefully considered the objections and rejections under 35 U.S.C. §112(¶1 and ¶2). The formality rejections should be withdrawn and are deemed overcome inasmuch as the prior claims and those presented herewith were implicit, now explicit, with respect to the probe and amplitude. It is well-established that the Examiner must supply factual basis for an enablement rejection. In re Marzochi, 439 F.2d 220, 223-24 (CCPA 1974). However, Applicant here respectfully submits that the enablement rejections are thought to have been misplaced and should be withdrawn since speculations offered in the Office Action are insufficient basis upon which to predicate a rejection.

Applicant respectfully traverses the rejection of claims 28-33 under 35 U.S.C. §103(a) as being unpatentable over Subramanian et al. in view of Magnum, and Somoza et al. I and II.

The primary Subramanian et al. reference requires supercritical conditions as seen from column 4, lines 53-54 ("near or super-critical fluid processes..."); column 5, lines 2-9 (In all cases..., ... at near or super-critical conditions for the antisolvent..."); column 5, lines 49-50; and column 9, *infra*. This requirement for near or super-critical conditions, as well as for the presence of an antisolvent would not have suggested the Applicant's claimed methods, especially in claims 28, 29, 30, 31, 32 and 33, in which the crystallizing mixture is subjected to ultrasonic vibration having a frequency of between 10 and 100 kHz using an ultrasonic probe having an amplitude of between 0.4 and 30 μ m.

Moreover, the primary Subramanian et al. reference also apparently has only isolated mention of "explosives" (column 4, line 62) and to "explosives (improved reactivity)" at column 17, line 56.

The bare bones passing mention achieved 'relevance' by using the Applicant's application as a construction blue print to assemble the invention from the cited references.

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This bare bones passing reference to at most a mere three words, only one of which is remotely arguably relevant - "explosives" - is not bolstered by adverting to Example 12. Contrary to what is implied by the December 27, 2002 Office Action in the sentence bridging pages 2-3, Example 12 (column 24, lines 33-46) describes a solution of a drug ("phenytoin in acetone") transferred to a borosilicate tube, placing the borosilicate tube in a view cell, and then placing the view cell in an ultrasonic bath while the cell was quickly pressurized to elevated pressure (900 psig) with CO₂. The drug precipitated after an hour but the drug re-dissolved upon depressurization. A drug product, whether or not reversibly precipitated depending upon the presence or absence of such extreme conditions, would not have motivated an ordinary artisan to an explosive material, as the arts are quite divergent.

Indeed, the bare word explosive says nothing about what is the kind of explosive, be it any sub-genus or any species. Gunpowder is an explosive. So is mercury fulminate. So is lead azide. So is picric acid. So is nitroglycerin. So is dynamite. So too is a confined, ignitable fuel-aerosol. The single word 'explosive' is too vague. It is self-evident that the isolated one-word "explosives" as an alleged genus would not have made obvious each an every un-named member of that alleged genus. *See, e.g., In re Baird*, 29 USPQ2d (BNA) 1550 (Fed. Cir. 1994) where the court having exclusive appellate jurisdiction to review decisions of the PTO has explained:

The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious. *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992) (rejecting Commissioner's argument that "regardless [] how broad, a disclosure of a chemical genus renders obvious any species that happens to fall within it"). *Jones* involved an obviousness rejection of a claim to a specific compound, the 2-(2'-aminoethoxy)ethanol salt of 2-methoxy-3,6-dichlorobenzoic acid (dicamba), as obvious in view of, *inter alia*, a prior art reference disclosing a genus which admittedly encompassed the claimed salt. We reversed the Board's rejection, reasoning that the prior art reference encompassed a "potentially infinite genus" of salts of dicamba and listed several such salts, but that it did not disclose or suggest the claimed salt. *Id.*

See, also, In re Bell, 991 F.2d 781 (Fed. Cir. 1993).

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Here, the primary and secondary references would not have been combined, and even if they would have been, which is not conceded here, their combined teachings would not have suggested the present method(s) to a person of only ordinary skill in the art.

It is respectfully submitted that the secondary reference to Magnum, U.S. Patent No. 3,954,526, has no suggestion of how to crystalize nitramines, and certainly discloses nothing regarding HNF, CL-20, HMX, RDX, ADN, HNF or PETN. It is submitted that the secondary reference would not have motivated an ordinarily skilled artisan to claim 28 or 31.

The secondary reference to Mangum explicitly requires a coating agent ("it is necessary that a coating agent be used", column 3, lines 46-47), as otherwise the ammonium perchlorate particles are not obtained. See also, column 2, lines 27-31. Also, the Mangum reference discloses a required combination of solvent and non-solvent, see, e.g., column 3.

Therefore, even if the secondary reference would have been combined with the primary reference, which is not conceded here, the resultant "teaching" would have required the use of a coating agent on ammonium perchlorate, among other things, which is not a *per se* requirement of the Applicants' process.

It is not seen where the required specially treated AP in the secondary reference is of the same class or would even have been suggestive of the dissimilar and more energetic materials, including CL-20, RDX, HMX, ADN, HNF, or, for instance, PETN, such as in claims 31, 34, 35, 36 or 37.

As to the further tertiary and quaternary references, Somoza I and Somoza II respectively, even if they would have been combined with the parenthetical three words in the primary reference or even with the secondary reference, which is not conceded, the

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combination would appear to be misplaced insofar as the claimed inventions are concerned. The Somoza I reference specifically concerns a *slurry* of particles, treating the particles, and then the "[r]ecovery of the ground, neutralized particles of nitramine without further recrystallization ...", col. 2, lines 45-46. The "treating" the slurry of particles means the particles are ground while in the liquid slurry, see. e.g., col. 2, lines 24-26.¹

Grinding is not subjecting the crystallizing mixture to an ultrasonic vibration with an ultrasonic probe, as in claims 28 and 31.

Grinding is not re-crystallizing, with or without an ultrasonic probe as in claim 38.

The tertiary and quaternary references would also not have taught, for indeed they do not disclose, subjecting a crystallizing mixture containing an energetic material to ultrasonic vibration using an ultrasonic probe having an amplitude, and/or vibration frequency as recited in the claims, and recovering the obtained crystalline energetic material. They would, in fact, have taught away from the claimed inventions, including claim 38.

The references neither disclose nor suggest the amplitude recited in the claims. When an alleged prior art patent, including drawings, is silent on a relationship, rejections assuming the existence of any such relationship are undermined, and subject to being reversed. Hockerson-Halberstadt Inc. v. Avia Group International Inc., 58 USPQ2d (BNA) 1487, 1491 (Fed. Cir. 2000); Ex parte Brown, 19 USPQ2d (BNA) 1609, 1612 (BOPI 1990) ("since the prior art is silent as to this feature, we are unable to sustain the

¹ In Somosa et al. (U.S. Patent No. 5,020,731), grinding solid explosive materials is done to remove acid inclusions. Grinding is a completely different process than precipitation and (re)-crystallization. During grinding, *arguendo*, any ultrasound energy is directed towards the solid particulate, which apparently breaks under influence of the energy. That would not have suggested subjecting a crystallizing mixture to ultrasonic vibration during precipitation and (re)crystallization where it influences nucleation and crystal growth. The other Somosa patent (U.S. Patent No. 5,279,492) also concerns a form of grinding. Neither appear concerned with crystallizing a material from solution in the presence of an ultrasonic vibration. Accordingly, it would appear the the Somosa '731 and '492 patents teach away from the claimed inventions.

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rejection ..."); Ex parte Isaksen 23 USPQ2d (BNA) 1001, 1006 (BOPI 2001), ("Forbes patent[s] are completely silent as to any sharpening effect and do not describe with any specificity what results ... magnetic treatment had on the razor blade edge," rejection reversed). Here, none of the references refers to any amplitude.

Finally, Applicant respectfully disagrees with the Examiner's catch all assertion that all parameters - including those unknown in the art - would somehow have been obvious to person of mere ordinary skill in the art. In particular, Applicant respectfully suggests the now almost hoary decision of In re Aller is at best inapposite. This is particularly true where the applied art does not disclose claim elements, such as, for example, the recited amplitude. Applicant therefore respectfully invites attention to In re Antonie, 195 USPQ 6 (CCPA 1977) (emphasis added) where the Federal Circuits' predecessor explained:

The PTO and the minority appear to argue that it would always be *obvious* for one of ordinary skill in the art to *try* varying *every* parameter of a system in order to optimize the effectiveness of the system even if there is no evidence in the record that the prior art recognized that particular parameter affected the result. As we have said many times, *obvious to try* is not the standard of 35 USC 103. In re Tomlinson, 53 CCPA 1421, 363 F.2d 928, 150 USPQ 623 (1966). Disregard for the unobviousness of the results of "obvious to try" experiments disregards the "invention as a whole" concept of §103, In re Dien, 54 CCPA 1027, 371 F.2d 886, 152 USPQ 550 (1967) and In re Wiggins, 55 CCPA 1356, 397 F.2d 356, 158 USPQ 199 (1968), and overemphasis on the routine nature of the data gathering required to arrive at appellant's discovery, after its existence became expected, overlooks the last sentence of §103. In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974).

In In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955), the court set out the rule that the discovery of an optimum value of a variable in a known process is normally obvious. We have found exceptions to this rule in cases where the results of optimizing a variable, which was known to be result effective, were unexpectedly good. In re Waymouth, 499 F.2d 1273, 182 USPQ 290 (CCPA 1974); In re Saether, *supra*. This case, in which the parameter optimized was not recognized to be a result-effective variable, is another exception. The decision of the board is reversed.

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Conclusion

Applicant accordingly earnestly, but respectfully, submits that he has fully responded to the Examiner's objections and rejections. Applicant therefore respectfully solicits a notice of allowance.

Respectfully submitted,

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